Amendment to the Claims:

Please amend the claims as follows:

Please cancel claims 53, 107, 262, 265 and 269, without prejudice or disclaimer.

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): An isolated, synthetic or recombinant nucleic acid comprising

(a) ~~a nucleic acid sequence having at least 90%, 95%, 96%, 97%, 98%, 99% or 100% sequence identity to SEQ ID NO:5 over a region of at least about 100, 200, 300, 400, 500, 600, 700, 800, 900 or 1000 or more residues, or to the full length of SEQ ID NO:5;~~

a nucleic acid sequence having at least ~~60%, 65%, 70%, 75%, 80%, 85%,~~ 90%, 95%, 96%, 97%, 98%, 99% or 100% sequence identity to SEQ ID NO:7 ~~over a region of at least about 100, 200, 300, 400, 500, 600, 700, 800, 900 or 1000 or more residues, or to the full length of SEQ ID NO:7;~~

~~a nucleic acid sequence having at least 50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95%, 96%, 97%, 98%, 99% or 100% sequence identity to SEQ ID NO:11 over a region of at least about 100, 200, 300, 400, 500, 600, 700, 800, 900 or 1000 or more residues, or to the full length of SEQ ID NO:11;~~

~~a nucleic acid sequence having at least 70%, 75%, 80%, 85%, 90%, 95%, 96%, 97%, 98%, 99% or 100% sequence identity to SEQ ID NO:13 over a region of at least about 100, 200, 300, 400, 500, 600, 700, 800, 900 or 1000 or more residues, or or to the full length of SEQ ID NO:13; or~~

~~a nucleic acid sequence having at least 80%, 85%, 90%, 95%, 96%, 97%, 98%, 99% or 100% sequence identity to SEQ ID NO:15 over a region of at least about 100, 200, 300, 400, 500, 600, 700, 800, 900 or 1000 or more residues, or to the full length of SEQ ID NO:15~~;

wherein the nucleic acid encodes at least one polypeptide having an amylase activity~~, and optionally~~;

(b) the nucleic acid of (a), wherein the sequence identities are determined by analysis with a sequence comparison algorithm or by a visual inspection; **[[.]]**

(c) the nucleic acid of (b), wherein ~~optionally~~ the sequence comparison algorithm is a BLAST version 2.2.2 algorithm where a filtering setting is set to blastall -p blastp -d "nr pataa" -F F, and all other options are set to default; **[[or]]**

[[(b)**]]** (d) a nucleic acid sequence encoding ~~a polypeptide having the sequence of SEQ ID NO:2, a polypeptide having the sequence of SEQ ID NO:6,~~ a polypeptide having the sequence of SEQ ID NO:8 or enzymatically active fragments thereof~~, a polypeptide having the sequence of SEQ ID NO:12, a polypeptide having the sequence of SEQ ID NO:14, or a polypeptide having the sequence of SEQ ID NO:16~~; or

[[(e)**]]** (c) a nucleic acid sequence that hybridizes under stringent conditions to a nucleic acid comprising the sequence of ~~SEQ ID NO:1, SEQ ID NO:5,~~ SEQ ID NO:7, ~~SEQ ID NO:11, SEQ ID NO:13, or SEQ ID NO:15, wherein the nucleic acid encodes a polypeptide having an amylase activity, wherein the nucleic acid sequence is about 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000 residues in length or the full length of a gene or transcript~~,

wherein the stringent conditions include a wash step comprising a wash in 0.2X SSC at a temperature of about 65°C for about 15 minutes, and nucleic acid sequence has at least 90% sequence identity to SEQ ID NO:7, and the nucleic acid encodes a polypeptide having an amylase activity; or

(d) a nucleic acid sequence encoding enzymatically active fragments of the polypeptide having an amylase activity encoded by the nucleic acid of (a);

~~a sequence fully complementary to (a), (b) or (c),~~

(e) the nucleic acid of any of (a) to (d), wherein the nucleic acid encodes a polypeptide having an ~~optionally the amylase~~ activity comprising ~~comprises~~: hydrolyzing glucosidic bonds; a glucoamylase activity; a 1,4-α-D-glucan glucohydralase activity; an α-amylase activity; an exoamylase activity; a β-amylase activity; hydrolyzing an α-1,4-glucosidic bond; hydrolyzing an α-1,6-glucosidic bond; hydrolyzing glucosidic bonds in a ~~starch~~ polysaccharide; hydrolyzing glucosidic bonds in the ~~starch~~ polysaccharide to produce maltodextrines; cleaving a maltose or a D-glucose unit from non-reducing end of the ~~starch~~ polysaccharide;

~~wherein optionally the amylase activity is thermostable; or the amylase activity comprises retaining an amylase activity under conditions comprising a temperature range of between about~~

~~37ºC to about 95ºC; or the amylase activity comprises retaining an amylase activity under conditions comprising a temperature range of between about 55ºC to about 85ºC; or the amylase activity comprises retaining an amylase activity under conditions comprising a temperature range of between about 70ºC to about 95ºC; or the amylase activity comprises retaining an amylase activity under conditions comprising a temperature range of between about 90ºC to about 95ºC;~~

~~wherein optionally the amylase activity is thermotolerant; or the amylase activity comprises retaining an amylase activity after exposure to a temperature in the range from greater than 37ºC to about 95ºC; or the amylase activity comprises retaining an amylase activity after exposure to a temperature in the range from greater than 55ºC to about 85ºC; or the amylase activity comprises retaining an amylase activity after exposure to a temperature in the range from greater than 90ºC to about 95ºC;~~

(f) the nucleic acid of any of (a) to (e), wherein the nucleic acid encodes a polypeptide lacking a signal (leader) sequence;

(g) the nucleic acid of any of (a) to (f), wherein the nucleic acid further comprises sequence encoding a heterologous polypeptide sequence;

(h) the nucleic acid of (g), wherein the heterologous polypeptide sequence comprises a heterologous signal (leader) sequence; or

(i) a nucleic acid sequence fully complementary to any of (a) to h).

Claims 2 to 45 (canceled)

Claims 46 (currently amended): A nucleic acid probe for identifying a nucleic acid encoding a polypeptide with an amylase activity, wherein the probe comprises ~~at least 10 consecutive bases of a sequence comprising: (a) the sequence of SEQ ID NO:1, the sequence of SEQ ID NO:5, the sequence of SEQ ID NO:7, the sequence of SEQ ID NO:11, the sequence of SEQ ID NO:13, or the sequence of SEQ ID NO:15, or (b)~~ the nucleic acid sequence of claim 1; wherein the probe identifies the nucleic acid by binding or hybridization~~,~~

~~wherein optionally the probe comprises an oligonucleotide comprising at least about 10 to 50, about 20 to 60, about 30 to 70, about 40 to 80, or about 60 to 100 consecutive bases of the nucleic acid sequence of (a) or (b),~~

~~wherein optionally the probe comprises an oligonucleotide comprising at least about 10 to 50, about 20 to 60, about 30 to 70, about 40 to 80, or about 60 to 100 consecutive bases of the nucleic acid sequence of (a) or (b).~~

Claims 47 to 55 (canceled)

Claim 56 (previously presented): An expression cassette comprising a nucleic acid comprising the nucleic acid sequence of claim 1.

Claim 57 (previously presented): A vector comprising a nucleic acid comprising the nucleic acid sequence of claim 1.

Claim 58 (currently amended): A cloning vehicle comprising

(a) nucleic acid of claim 1, or a vector as set forth in claim 57, wherein the cloning vehicle comprises a viral vector, a plasmid, a phage, a phagemid, a cosmid, a fosmid, a bacteriophage or an artificial chromosome, or

(b) the cloning vehicle of (a), wherein ~~optionally~~ the viral vector comprises an adenovirus vector, a retroviral vector or an adeno-associated viral vector, or, the cloning vehicle comprises a bacterial artificial chromosome (BAC), a plasmid, a bacteriophage P1-derived vector (PAC), a yeast artificial chromosome (YAC), or a mammalian artificial chromosome (MAC).

Claims 59 and 60 (canceled)

Claim 61 (currently amended): A transformed cell comprising

(a) the vector of claim 57, or the nucleic acid of claim 1, or

(b) the transformed cell of (a), wherein ~~optionally~~ the cell is a bacterial cell, a mammalian cell, a fungal cell, a yeast cell, an insect cell or a plant cell.

Claims 62 and 63 (canceled)

Claim 64 (withdrawn - currently amended): A transgenic non-human animal comprising

(a) the vector of claim 57, or the nucleic acid of claim 1, or

(b) the transformed cell of (a), wherein ~~optionally~~ the animal is a mouse, a goat, a rabbit, a sheep, a pig, a cows or a rat.

Claim 65 (canceled)

Claim 66 (withdrawn - currently amended): A transgenic plant comprising

(a) the vector of claim 57, or the nucleic acid of claim 1, or

(b) the transformed cell of (a), wherein ~~optionally~~ the plant is a corn plant, a sorghum plant, a potato plant, a tomato plant, a wheat plant, an oilseed plant, a rapeseed plant, a soybean plant, a rice plant, a barley plant, a grass, or a tobacco plant.

Claim 67 (canceled)

Claim 68 (withdrawn - currently amended): A transgenic seed comprising

(a) the vector of claim 57, or the nucleic acid of claim 1, or

(b) the transformed cell of (a), wherein ~~optionally~~ the seed is a corn seed, a wheat kernel, an oilseed, a rapeseed, a soybean seed, a palm kernel, a sunflower seed, a sesame seed, a rice, a barley, a peanut or a tobacco plant seed.

Claim 69 (canceled)

Claim 70 (withdrawn - currently amended): An antisense oligonucleotide comprising a nucleic acid sequence completely complementary to or capable of hybridizing under stringent conditions to the sequence of claim 1,

wherein the stringent conditions include a wash step comprising a wash in 0.2X SSC at a temperature of about 65°C for about 15 minutes, and nucleic acid sequence has at least 90% sequence identity to SEQ ID NO:7, and the sense strand of the nucleic acid encodes a polypeptide having an amylase activity

~~optionally the antisense oligonucleotide is between about 10 to 50, about 20 to 60, about 30 to 70, about 40 to 80, or about 60 to 100 bases in length~~.

Claims 71 and 72 (canceled)

Claim 73 (withdrawn - currently amended): An isolated, synthetic or recombinant polypeptide comprising

(a) an amino acid sequence encoding a polypeptide having an amylase activity ~~as set forth in SEQ ID NO:2,~~

~~an amino acid sequence having at least 90%, 95%, 96%, 97%, 98%, 99% or 100% sequence identity to SEQ ID NO:6 over a region of at least about 50, 60, 70, 80, 90, 100, 200, 300, 400, 500 or more residues,~~

~~an amino acid sequence~~ having at least ~~60%, 65%, 70%, 75%, 80%, 85%,~~ 90%, 95%, 96%, 97%, 98%, 99% or 100% sequence identity to SEQ ID NO:8 ~~over a region of at least about 50, 60, 70, 80, 90, 100, 200, 300, 400, 500 or more residues,~~

~~an amino acid sequence having at least 50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95%, 96%, 97%, 98%, 99% or 100% identity to SEQ ID NO:12 over a region of at least about 50, 60, 70, 80, 90, 100, 200, 300, 400, 500 or more residues,~~

~~an amino acid sequence having at least 70%, 75%, 80%, 85%, 90%, 95%, 96%, 97%, 98%, 99% or 100% identity to SEQ ID NO:14 over a region of at least about 50, 60, 70, 80, 90, 100, 200, 300, 400, 500 or more residues, or~~

~~an amino acid sequence having at least 80%, 85%, 90%, 95%, 96%, 97%, 98%, 99% or 100% identity to SEQ ID NO:16 over a region of at least about 50, 60, 70, 80, 90, 100, 200, 300, 400, 500 or more residues~~, or

(b) a polypeptide encoded by the nucleic acid of claim 1, wherein the polypeptide has an amylase activity; **[[**,**]]**

(c) a polypeptide comprising enzymatically active fragments of the polypeptide of (a);

(d) the polypeptide of (a) or (c), wherein ~~optionally~~ the sequence identities are determined by analysis with a sequence comparison algorithm or by a visual inspection; **[[**,**]]**

(e) the polypeptide of any of (a) to (d), ~~wherein optionally the~~ having an amylase activity ~~comprises:~~ comprising hydrolyzing glucosidic bonds; a glucoamylase activity; a 1,4-α-D-glucan glucohydralase activity; an α-amylase activity; an exoamylase activity; a β-amylase activity; hydrolyzing an α-1,4-glucosidic bond; hydrolyzing an α-1,6-glucosidic bond; hydrolyzing glucosidic bonds in a ~~starch~~ polysaccharide; hydrolyzing glucosidic bonds in the ~~starch~~ polysaccharide to produce maltodextrines; cleaving a maltose or a D-glucose unit from non-reducing end of the ~~starch~~ polysaccharide;

~~wherein optionally the amylase activity is thermostable; or the amylase activity comprises retaining an amylase activity under conditions comprising a temperature range of between about 37°C to about 95°C; or the amylase activity comprises retaining an amylase activity under conditions comprising a temperature range of between about 55°C to about 85°C; or the amylase activity comprises retaining an amylase activity under conditions comprising a temperature range of between about 70°C to about 95°C; or the amylase activity comprises retaining an amylase activity under conditions comprising a temperature range of between about 90°C to about 95°C;~~

~~wherein optionally the amylase activity is thermotolerant; or the amylase activity comprises retaining an amylase activity after exposure to a temperature in the range from greater than 37°C to about 95°C; or the amylase activity comprises retaining an amylase activity after exposure to a temperature in the range from greater than 55°C to about 85°C; or the amylase activity comprises retaining an amylase activity after exposure to a temperature in the range from greater than 90°C to about 95°C,~~

~~wherein optionally the amylase activity comprises a specific activity at about 37ºC in the range from about 100 to about 1000 units per milligram of protein, or optionally the amylase activity comprises a specific activity from about 500 to about 750 units per milligram of protein,~~

(f) the polypeptide of any of (a) to (e), wherein ~~optionally~~ the polypeptide comprises at least one glycosylation site; **[[**,**]]**

~~wherein optionally the polypeptide retains an amylase activity under conditions comprising about pH 5, about pH 4.5, about pH 8.0, about pH 8.5, about pH 9, about pH 9.5, about pH 10 or about pH 10.5~~

(g) the polypeptide of any of (a) to (f), wherein the polypeptide lacks a signal (leader) sequence;

(h) the polypeptide of any of (a) to (g), comprising a heterologous polypeptide sequence; or

(i) the polypeptide of (h), wherein the heterologous polypeptide sequence comprises a heterologous signal (leader) sequence.

Claims 74 to 124 (canceled)

Claim 125 (withdrawn – currently amended): A protein preparation comprising **[[**a**]]** the polypeptide of ~~as set forth in~~ claim 73, wherein the protein preparation comprises a liquid, a solid or a gel.

Claim 126 (withdrawn – currently amended): A heterodimer comprising

(a) **[[**a**]]** the polypeptide of ~~as set forth in~~ claim 73 and a second domain, or

(b) the heterodimer of (a), wherein ~~optionally~~ the second domain is a polypeptide and the heterodimer is a fusion protein, or ~~optionally~~ the second domain is an epitope or a tag.

Claims 127 to 129 (canceled)

Claim 130 (withdrawn – currently amended): A homodimer comprising **[[**a**]]** the polypeptide of ~~as set forth in~~ claim 73.

Claim 131 (withdrawn – currently amended): An immobilized polypeptide comprising

(a) the polypeptide ~~sequence~~ of claim 73 or the heterodimer claim 126, or

(b) the immobilized polypeptide of (a), wherein ~~optionally~~ the polypeptide is immobilized on a cell, a metal, a resin, a polymer, a ceramic, a glass, a microelectrode, a graphitic particle, a bead, a gel, a plate, an array or a capillary tube.

Claim 132 (canceled)

Claim 133 (withdrawn – currently amended): An array comprising (a) the **[[**an**]]** immobilized polypeptide of ~~as set forth in~~ claim 73 or the heterodimer of claim 126, (b) an immobilized nucleic acid comprising the nucleic acid of ~~as set forth in~~ claim 1, (c) the **[[**an**]]** antibody of claim 135, or (d) a combination thereof.

Claim 134 (canceled)

Claim 135 (withdrawn – currently amended): An isolated or recombinant antibody

(a) that specifically binds to the **[[**a**]]** polypeptide of ~~as set forth in~~ claim 73 or to a polypeptide encoded by the **[[**an**]]** nucleic acid of ~~as set forth in~~ claim 1, or

(b) the antibody of (a), wherein ~~optionally~~ the antibody is a monoclonal or a polyclonal antibody.

Claim 136 (canceled)

Claim 137 (withdrawn – currently amended): A hybridoma comprising an antibody that specifically binds to the **[[**a**]]** polypeptide of ~~as set forth in~~ claim 73 or to a polypeptide encoded by the **[[**an**]]** nucleic acid of ~~as set forth in~~ claim 1.

Claim 138 (withdrawn – currently amended): A food, feed, food supplement or feed supplement for an animal comprising:

(a) the polypeptide of claim 73, or

(b) the food, feed, food supplement or feed supplement of (a), wherein ~~optionally~~ the polypeptide is glycosylated.

Claim 139 (canceled)

Claim 140 (withdrawn – currently amended): An edible enzyme delivery matrix comprising:

(a) the polypeptide of claim 73, or

(b) the edible enzyme delivery matrix of (a), wherein ~~optionally~~ the delivery matrix comprises a pellet, or the polypeptide is glycosylated, or the amylase activity is thermotolerant or thermostable.

Claims 141 to 156 (canceled)

Claim 157 (withdrawn – currently amended): A computer system comprising a processor and a data storage device wherein said data storage device has stored thereon a polypeptide sequence or a nucleic acid sequence, wherein the polypeptide sequence comprises the sequence of claim 73, a polypeptide encoded by the nucleic acid of claim 1, or

(b) the computer system of (a), wherein ~~optionally~~ the system further comprises a sequence comparison algorithm and a data storage device having at least one reference sequence stored thereon, or

(c) the computer system of (b), wherein ~~optionally~~ the sequence comparison algorithm comprises a computer program that indicates polymorphisms, or

(d) the computer system of any of (a) to (c), wherein ~~optionally~~ the system further comprises an identifier that identifies one or more features in said sequence.

Claims 158 to 160 (canceled)

Claim 161 (withdrawn): A computer readable medium having stored thereon a polypeptide sequence or a nucleic acid sequence, wherein the polypeptide sequence comprises the polypeptide of claim 73; a polypeptide encoded by the nucleic acid of claim 1.

Claims 162 to 168 (canceled)

Claim 169 (withdrawn – currently amended): A method for isolating or recovering a nucleic acid encoding a polypeptide with an amylase activity from an environmental sample comprising ~~the steps of~~:

(A) (a) providing a polynucleotide probe comprising the sequence of claim 1, or a subsequence thereof;

(b) isolating a nucleic acid from the environmental sample or treating the environmental sample such that nucleic acid in the sample is accessible for hybridization to a polynucleotide probe of step (a);

(c) combining the isolated nucleic acid or the treated environmental sample of step (b) with the polynucleotide probe of step (a); and

(d) isolating a nucleic acid that specifically hybridizes with the polynucleotide probe of step (a), thereby isolating or recovering a nucleic acid encoding a polypeptide with an amylase activity from an environmental sample, or

(B) the method of (A), wherein ~~optionally~~ the environmental sample comprises a water sample, a liquid sample, a soil sample, an air sample or a biological sample, or

(C) the method of (B), wherein ~~optionally~~ the biological sample is derived from a bacterial cell, a protozoan cell, an insect cell, a yeast cell, a plant cell, a fungal cell or a mammalian cell.

Claim 170 (canceled)

Claim 171 (withdrawn – currently amended): A method of generating a variant of a nucleic acid encoding a polypeptide with an amylase activity comprising ~~the steps of~~:

(A) (a) providing a template nucleic acid comprising the sequence of claim 1; and

(b) modifying, deleting or adding one or more nucleotides in the template sequence, or a combination thereof, to generate a variant of the template nucleic acid, or

(B) the method of (A), wherein ~~optionally~~ the method further comprises expressing the variant nucleic acid to generate a variant amylase polypeptide, or ~~optionally~~ the modifications, additions or deletions are introduced by a method comprising error-prone PCR, shuffling, oligonucleotide-directed mutagenesis, assembly PCR, sexual PCR mutagenesis, in vivo mutagenesis, cassette mutagenesis, recursive ensemble mutagenesis, exponential ensemble mutagenesis, site-specific mutagenesis, gene reassembly, gene site saturation mutagenesis (GSSM), synthetic ligation reassembly (SLR), recombination, recursive sequence recombination, phosphothioate-modified DNA mutagenesis, uracil-containing template mutagenesis, gapped duplex mutagenesis, point mismatch repair mutagenesis, repair-deficient host strain mutagenesis, chemical mutagenesis, radiogenic mutagenesis, deletion mutagenesis, restriction-selection mutagenesis, restriction-purification mutagenesis, artificial gene synthesis, ensemble mutagenesis, chimeric nucleic acid multimer creation and a combination thereof, or

(C) the method of (A), wherein ~~optionally~~ the method is iteratively repeated until an amylase having an altered or different activity or an altered or different stability from that of a polypeptide encoded by the template nucleic acid is produced, or

(D) the method of (C), wherein ~~optionally~~ the variant amylase polypeptide is thermotolerant and retains some activity after being exposed to an elevated temperature, or ~~optionally~~ the variant amylase polypeptide has increased glycosylation as compared to the amylase encoded by a template nucleic acid, or

(E) the method of (C), wherein ~~optionally~~ the variant amylase polypeptide has an amylase activity under a high temperature, wherein the amylase encoded by the template nucleic acid is not active under the high temperature, or

(F) the method of (C), wherein ~~optionally~~ the method is iteratively repeated until an amylase coding sequence having an altered codon usage from that of the template nucleic acid is produced, or

(G) the method of (C), wherein ~~optionally~~ the method is iteratively repeated until an amylase gene having higher or lower level of message expression or stability from that of the template nucleic acid is produced.

Claims 172 to 217 (canceled)

Claim 218 (withdrawn – currently amended): A method for hydrolyzing a ~~starch~~ polysaccharide comprising ~~the following steps~~:

(A) (a) providing ~~a polypeptide having an amylase activity, wherein the polypeptide comprises~~

the polypeptide of claim 73; or

a polypeptide encoded by the nucleic acid of claim 1;

(b) providing a composition comprising a ~~starch~~ polysaccharide; and

(c) contacting the polypeptide of step (a) with the composition of step (b) under conditions wherein the polypeptide hydrolyzes the starch, or

(B) the method of (A), wherein ~~optionally~~ the composition comprises an α-1,4-glucosidic bond, or

(C) the method of (A), wherein ~~optionally~~ the composition comprises an α-1,6-glucosidic bond.

Claims 219 to 220 (canceled)

Claim 221 (withdrawn – currently amended): A method for liquefying or removing a ~~starch~~ polysaccharide from a composition comprising the following steps:

(A) (a) providing ~~a polypeptide having an amylase activity, wherein the polypeptide comprises~~

the polypeptide of claim 73; or

a polypeptide encoded by the nucleic acid of claim 1;

(b) providing a composition comprising a ~~starch~~ polysaccharide; and

(c) contacting the polypeptide of step (a) with the composition of step (b) under conditions wherein the polypeptide removes or liquefies the ~~starch~~ polysaccharide; or

(B) the method of (A), wherein the composition comprises an α-1,4-glucosidic bond, or

(C) the method of (A), wherein the composition comprises an α-1,6-glucosidic bond.

Claims 222 to 224 (canceled)

Claim 225 (withdrawn – currently amended): A detergent composition comprising

(A) the polypeptide of claim 73[[;]] a polypeptide encoded by the nucleic acid of claim 1~~, wherein the polypeptide comprises an amylase activity~~, or

(B) the composition of (A), wherein ~~optionally~~ the amylase is a nonsurface-active amylase, or

(C) the composition of (A), wherein ~~optionally~~ the amylase is a surface-active amylase.

Claims 226 to 228 (canceled)

Claim 229 (withdrawn – currently amended): A method for hydrolyzing a ~~starch~~ polysaccharide in a feed or a food prior to consumption by an animal comprising the following steps:

(A) (a) obtaining a feed or a food material comprising a ~~starch~~ polysaccharide, ~~wherein the starch can be hydrolyzed by a polypeptide having an amylase activity~~,

(b) providing ~~wherein the polypeptide comprises:~~

the polypeptide of claim 73; or

a polypeptide encoded by the nucleic acid of claim 1; and

[[(b)]] (c) adding the polypeptide of step (b) ~~of step (a)~~ to the feed or food material of step (a) in an amount sufficient for a sufficient time period to cause hydrolysis of the ~~starch~~ polysaccharide and formation of a treated food or feed, thereby hydrolyzing the ~~starch~~ polysaccharide in the food or the feed prior to consumption by the animal, or

(B) the method of (A), wherein ~~optionally~~ the food or feed comprises rice, corn, barley, wheat, legumes, or potato.

Claim 230 (canceled)

Claim 231 (withdrawn- currently amended): A method for textile processing or desizing comprising the following steps:

(a) providing ~~a polypeptide having an amylase activity, wherein the polypeptide comprises~~ the polypeptide of claim 73; or

a polypeptide encoded by the nucleic acid of claim 1;

(b) providing a fabric; and

(c) contacting the polypeptide of step (a) and the fabric of step (b) under conditions wherein the amylase can process or desize the fabric.

Claim 232 (withdrawn – currently amended): A method for paper, fiber or pulp processing or deinking comprising the following steps:

(a) providing ~~a polypeptide having an amylase activity, wherein the polypeptide comprises:~~ the polypeptide of claim 73; or

a polypeptide encoded by the nucleic acid of claim 1;

(b) providing a composition comprising paper, pulp or fiber; and

(c) contacting the polypeptide of step (a) and the composition of step (b) under conditions wherein the polypeptide can process or deink the paper, pulp or fiber.

Claim 233 (withdrawn – currently amended): A method for treatment of lignocellulosic fibers comprising the following steps:

(a) providing ~~a polypeptide having an amylase activity, wherein the polypeptide comprises~~ the polypeptide of claim 73; or

a polypeptide encoded by the nucleic acid of claim 1;

(b) providing a lignocellulosic fiber; and

(c) contacting the polypeptide of step (a) and the fiber of step (b) under conditions wherein the polypeptide can treat the fiber thereby improving the fiber properties.

Claim 234 (withdrawn – currently amended): A method for producing a high-maltose or a high-glucose syrup comprising the following steps:

(a) providing ~~a polypeptide having an amylase activity, wherein the polypeptide comprises~~ the polypeptide of claim 73; or

a polypeptide encoded by the nucleic acid of claim 1;

(b) providing a composition comprising a ~~starch~~ polysaccharide; and

(c) contacting the polypeptide of step (a) and the fabric of step (b) under conditions wherein the polypeptide of step (a) can hydrolyze the composition of step (b), thereby producing a high-maltose or a high-glucose syrup,

wherein ~~optionally~~ the ~~starch~~ polysaccharide is from rice, corn, barley, wheat, legumes, potato, or sweet potato.

Claim 235 (canceled)

Claim 236 (withdrawn – currently amended): A drilling process, or a method for improving the flow of the ~~starch~~ polysaccharide containing production fluids, comprising the following steps:

(a) providing ~~a polypeptide having an amylase activity, wherein the polypeptide comprises~~ the polypeptide of claim 73; or

a polypeptide encoded by the nucleic acid of claim 1;

(b) providing production fluid comprising a ~~starch~~ polysaccharide; and

(c) contacting the polypeptide of step (a) and the production fluid of step (b) under conditions wherein the amylase can hydrolyze the ~~starch~~ polysaccharide in the production fluid, thereby improving its flow by decreasing its density,

wherein ~~optionally~~ the production fluid is from a subterranean formation.

Claim 237 to 240 (canceled)

Claim 241 (withdrawn – currently amended): A method for ~~using amylase in~~ brewing or alcohol production comprising the following steps:

(a) providing ~~a polypeptide comprising~~

the polypeptide of claim 73; or

a polypeptide encoded by the nucleic acid of claim 1;

(b) providing a composition used for brewing or in alcohol production comprising a ~~starch~~ polysaccharide;

(c) combining the polypeptide of step (a) with the composition of the step (b) under conditions wherein the polypeptide can hydrolyze the ~~starch~~ polysaccharide in the composition used for brewing or alcohol production.

Claims 242 to 270 (canceled)

Claim 271 (withdrawn – currently amended): A method for producing a food or feed comprising ~~a recombinant amylase, the method comprising the steps of~~:

(a) providing ~~a polypeptide having an amylase activity, wherein the polypeptide comprises~~ the polypeptide of claim 73 or a polypeptide encoded by the nucleic acid of claim 1;

(b) providing a composition comprising a food or feed;

(c) expressing the nucleic acid to produce a recombinant amylase; and

(d) mixing the recombinant amylase and the feed-comprising composition, thereby producing a food or feed comprising a recombinant amylase.

Claim 272 (withdrawn – currently amended): A corn wet milling process comprising

(A) use of ~~a polypeptide having amylase activity, wherein the polypeptide comprises~~ the polypeptide of claim 73 or a polypeptide encoded by the nucleic acid of claim 1, or

(B) the method of (A), wherein ~~optionally~~ the process further comprises use of a second polypeptide having amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.

Claim 273 (withdrawn – currently amended): A baking process comprising

(A) use of ~~a polypeptide having amylase activity, wherein the polypeptide comprises~~ the polypeptide of claim 73 or a polypeptide encoded by the nucleic acid of claim 1, or

(B) the method of (A), wherein ~~optionally~~ the baking process further comprises use of a second polypeptide having an amylase activity, an alpha amylase activity, or a beta amylase, or another enzyme.